Excerpts from Public Documents

Setting Cleanup Levels

1. The new recommendation of 12 mrem/yr regarding what dose-based ARARs are protective is based on using an updated risk assessment to achieve the same 3 x 10^{-4} cancer risk as the previous recommendation using 15 mrem/yr.[1]

2. "the ARAR evaluation guidance first discussed in OSWER Directive 9200.4-18 is being updated to 12 mrem/yr so that ARARs that are greater than 12 mrem/yr effective dose equivalent (EDE) are generally not considered sufficiently protective for developing cleanup levels under CERCLA at remedial sites. As before, this ARAR evaluation tool should not be used as a to be considered (TBC) as a basis for establishing 12 mrem/yr cleanup levels at CERCLA remedial sites." [2]

3. "In general, dose assessment used as a method to assess risk is not recommended as a way of ensuring protectiveness of human health at CERCLA remedial sites." [3]

4. **"Dose assessments generally should only be performed to assess risks or to establish cleanup levels at CERCLA remedial sites** to show compliance with an ARAR that requires a dose assessment . . . . The selection of cleanup levels for carcinogens for CERCLA remedy selection purposes should be consistent with the NCP and CERCLA guidance – i.e., based on the risk range when ARARs are not available or are not sufficiently protective. EPA has made the policy decision to use the NCP's risk range in developing cleanup levels for radionuclides at CERCLA remedial sites rather than using dose-based. . . ."[4]

5. "cleanup levels not based on an ARAR should be based on the carcinogenic risk range (generally 10^-4 to 10^-6, with 10^-6 as the point of departure and 1 x 10^-6 used for PRGs." [5]

6. "Consistent with existing Agency guidance for the CERCLA remedial program, while the upper end of the risk range is not a discrete line at 1 x 10^-4, EPA generally uses 1 x 10^-4 in making risk management decisions. A specific risk estimate around 10^-4 may be considered acceptable based on site-specific circumstances. . . ."[6]

---

[1] OSWER Directive 9200.4-40, EPA 540-R-012-13, May 2014, Cover letter, p.2
[2] Id., Q35, p. 28.
[3] Id., Q34, p. 27
[4] Id., Q36, p. 28-9.
[5] Id., Q33, p. 27, and OSWER Directive 9200.4-18 (U.S. EPA 1997a)
[6] Id., Q34, p. 27

Not To Exceed vs. Area Averaging

7. "There are two general sampling approaches for determining what is contaminated for site characterization or demonstrating compliance with cleanup levels; a not-to-exceed (NTE) or area averaging (AA) approach. In general, the same sampling approach should be used for both radionuclide and chemical contaminants in the same medium at the same site (e.g., soil, groundwater, surface water, air, or buildings) to facilitate a consistent approach for addressing radionuclides and chemicals; . . . Under most residential situations and other nonrandom exposure situations, remediating with the AA approach may not be protective of human receptors."[7]

8. EPA wrote in Comment #25 on the Navy's Draft Work Plan, Radiological Survey and Sampling, February, 2018:

"… the MARSSIM WRS test is a non-parametric statistical test designed to compare population estimators (median) of the survey unit data to the median of the background data to determine if the two data sets have the same distributions. Including the WRS in documentation is valuable to demonstrate compliance with MARSSIM requirements, so please include that in future reports. However, it is not designed to demonstrate that individual results meet a 'not to exceed' remedial goal limit. As such, the results of the WRS test cannot be used directly to demonstrate that further excavation should not be conducted. A point-by-point comparison of the data to the ROD-specified release limits will need to be completed in addition to demonstrate that results are below these release limits."

State Cleanup Standards

9. "1,272 license terminations tracked and documented since 2003 found only 4 exceeding a projected dose of 1 mrem/yr, and no site exceeded 3 mrem as compared to NRC's 25 mrem dose standard. . . . By not developing a dose-based standard, protection of the public health's safety and environment has been strengthened. NRC accepted CDPH's process"[8]

10. "On February 11, 1994, [HYPERLINK "https://www.archives.gov/federal-register/executive-orders/1994.html" \l "12898"] was issued to direct Federal agencies to incorporate achieving environmental justice into their mission. Accompanying that Executive Order was a [HYPERLINK "https://www.epa.gov/environmentaljustice/presidential-memorandum-heads-all-departments-and-agencies-executive-order"] stating, in part,

---

[7] OSWER Directive 9200.4-40, EPA 540-R-012-13, May 2014, Q3, p. 8.

[8] [HYPERLINK "https://www.bsa.ca.gov/reports/responses/2007-114/5"], May 2016

In accordance with Title VI of the Civil Rights Act of 1964, each Federal agency shall ensure that all programs or activities receiving Federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin."[9]

Radiological Objects

11. "Contamination . . . could have come from rework and repair of radioluminescent devices (Ra-226 and Sr-90), NRDL [Naval Radiation Defense Laboratory] experimentation and development of radiation survey instrumentation (Ra- 226, Cs-137, and Sr-90), or decontamination of ships that participated in atomic weapons testing. . . . radiological operations at HPS started in 1941 and concluded in 1974 with the closure of the shipyard. During this time, controls of radioactive materials, particularly involving radioluminescent devices, were much more relaxed than today's standards"[10]

12. EPA already submitted this comment on the draft Workplan, General Comment 4f.:

"The Uncertainty discussion claims that all known sources of contamination were removed; however, there are allegations that "hot" samples were returned to trenches and evidence that some areas have buried radiological devices, such as areas associated with use of dredge materials as fill to construct land in Parcel D-1. In addition, previous investigations have identified the presence of radiological devices with significant radioactive material at the site. One such example includes the device detected outside a drain line near Building 205."

[9] Source: https://www.epa.gov/environmentaljustice/title-vi-and-environmental-justice

[10] *Source: Navy Memorandum for the Record: Conceptual Site Model for the Removal of the Sanitary and Storm Sewers at Hunters Point Shipyard*, December 17, 2008, Section 2, Background, p.1-2.